

## ULTRASOUND TRANSDUCERS FOR IMAGING AND THERAPY

### Abstract of the Disclosure

5        Ultrasound applicators able to both image a treatment site and administer  
ultrasound therapy include an array of transducer elements that can be focused. In  
several embodiments, an electronically phased array is used for controlling the  
focal point of an ultrasound beam. The ultrasound beam produced thereby can  
also be electronically steered. To reduce the quality factor or Q of the array when  
the array is used for imaging, an electronic switch is selectively closed, placing a  
resistance in parallel with each of the array elements. A flexible array is  
10       employed in several embodiments and is selectively bent or flexed to vary its  
radius of curvature and thus control the focal point and/or a direction of focus of  
the array. In another embodiment, each of the transducer elements comprising the  
array are individually mechanically pivotable to steer the ultrasonic beam  
produced by the transducer elements.